

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application:

LISTING OF CLAIMS

Claims 1-10 (Cancelled).

11. (Previously Presented) An assembled graft implant suitable for implantation into a patient comprising machined segments of allograft bone assembled into a single graft by use of reinforcing material to hold the machined segments together, wherein said machined segments of allograft bone are pretreated by a cleaning, perfusion and passivation process which comprises exposure of said implant to cyclic increases and decreases in pressure in the presence of a cleaning solution.

12. (Previously Presented) The graft implant according to claim 11 wherein the assembled implant is pretreated or treated after assembly to incorporate a biologically active material selected from the group consisting of a bone morphogenic protein (BMP), an antibiotic, a growth factor, a nucleic acid and a peptide.

13. (Previously Presented) An assembled implant suitable for implantation in humans comprising segments of allograft cortical bone, allograft cancellous bone, allograft cortical-cancellous bone, or a combination thereof pinned to each other by means of pins machined from cortical bone, wherein, prior to assembly or after assembly, a segment of bone or a bone pin is soaked, infused, or impregnated a material selected from the group consisting of a bone morphogenic protein (BMP), an antibiotic, a growth factor, a nucleic acid, a peptide, and a combination thereof.

14-29. (Cancelled).

30. (Currently Amended) An assembled graft implant comprising two or more individual segments fastened together with at least one pin machined from cortical bone, ~~said implant comprising wherein~~ at least one segment is a demineralized segment of allograft bone and at least one segment is a mineralized segment of allograft cortical bone, each segment having a hole drilled therein for receiving and frictionally engaging said at least one pin.

31. (Original) The assembled graft implant of claim 30, wherein said at least one demineralized bone segment comprises a region of mineralized bone.

32. (Original) The assembled graft implant of claim 30, wherein said demineralized or mineralized segments are made from cortical bone, cancellous bone or both.

33. (Currently Amended) An assembled graft implant suitable for use in humans comprising two or more segments of allograft cortical bone fastened together, said implant further comprising at least one pin holding said segments together.

34. (Cancelled).

35. (Previously Presented) The assembled graft implant of claim 33, wherein said pin is made from a material selected from the group consisting of stainless steel, titanium, cobalt chromium-molybdenum alloy, nylon, polycarbonate, polypropylene, polyacetal, polyethylene oxide and its copolymers, polyvinylpyrrolidone, polyacrylates, polyesters, polysulfone, polylactide, poly(L-lactide) (PLLA), poly(D,L-lactide) (PLA), poly(glycolide) (PGA), poly(L-lactide-co-D,L-Lactide) (PLLA/PLA), poly(L-lactide-co-glycolide) (PLA/PGA), poly(glycolide-co-trimethylene carbonate) (PGA/PTMC), polydioxanone (PDS), polycaprolactone (PCL), polyhydroxybutyrate (PHBT), poly(phosphazenes), poly(D,L-lactide-co-caprolactone) (PLA/PCL), poly(glycolide-co-caprolactone) (PGA/PCL), poly(phosphazene ester), polyanhydrides, polyvinyl alcohol, hydrophilic polyurethanes, and a combination of bioabsorbable polymers.

36-38. (Cancelled).

39. (Previously Presented) The assembled graft implant of claim 11 further comprising at least one segment comprised of demineralized bone.

40-55 (Cancelled).

56. (Currently amended) A kit for assembling an implantable bone product comprising assemblable parts machined from allograft bone, said parts having a through hole therein that is sized for receiving at least one pin machined from cortical bone, said at least one pin capable of interconnecting said assemblable parts and capable of holding them in juxtaposition to one another.

57-59. (Cancelled).

60. (Previously Presented) An assembled implantable bone graft suitable for implantation in humans comprising segments of allograft cortical bone held in juxtaposition by machined pins of cortical bone wherein, prior to assembly the bone pins are pre-shrunk by freeze drying.

61. (Currently Amended) An assembled implantable bone graft suitable for use in humans comprising a first machined segment of allograft bone pinned with at least one pin to a second machined segment of allograft bone, and ~~comprising~~ a flexible tissue affixed between said first segment and said second segment.

62 -63. (Cancelled).

64. (Currently Amended) The bone graft of claim 61, wherein said first machined segment and said second machined segment have respective through holes that are aligned for receiving said at least one pin.

65-66. (Cancelled).

67. (Currently Amended) An assembled graft implant for implantation into a human comprising a combination of machined segments of allograft bone assembled into said assembled graft implant by use of at least one pin, said at least one pin inserted into drilled through holes in each of said machined segments to hold the machined segments together.

68. (Currently Amended) The graft implant of claim 67 wherein said at least one pin is machined from allograft cortical bone.

69. (Previously Presented) The graft implant of claim 67 wherein the assembled implant is pre-treated or treated after assembly to incorporate a biologically active material selected from the group consisting of a bone morphogenic protein (BMP), an antibiotic, a growth factor, a nucleic acid and a peptide.

70. (Cancelled).

71. (Previously Presented) The graft implant of claim 68 composed of two segments of cortical bone having cortical bone pins inserted in each of said segments.

72. (Original) The implant of claim 67, having a superior vertebra engaging surface and an inferior vertebrae engaging surface, said surfaces having ridges or teeth machined therein to assist in retention of the implant when placed between the vertebrae.

73. (Cancelled).

74. (Currently Amended) The assembled implant of claim 67, wherein the implant comprises ~~further comprising an assembled implant comprising~~ different segments of cortical bone, cancellous bone, demineralized cortical bone, demineralized ~~or~~ cancellous bone, ~~or~~ synthetic material, or combinations thereof.

75. (Original) The implant of claim 71 wherein insertion of reinforcing pins provides an

implant with multiple load-bearing pillars.

76. (Original) The implant of claim 75 wherein said pins protrude from the surface of the implant to engage with inferior, superior or both surfaces of bone between which the implant is inserted.

77. (Previously Presented) The implant of claim 67 which is sized for implantation between adjacent spinal vertebrae.

78. (Previously Presented) The implant according to claim 67 further comprising a cancellous portion of bone implant that has been compression molded, and then affixed to other portions of cortical bone.

79. (Original) A bone implant comprising:

- a. two or more bone segments,
- b. at least one biocompatible connector,
- c. wherein said at least one biocompatible connector fastens together said two or more bone segments to form an assembled bone implant, said at least one biocompatible connector does not comprise an adhesive.

80. (Original) The bone implant of claim 79, wherein at least one of said two or more bone segments is a mixed composition segment.

81-101. (Cancelled).